View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Elsevier - Publisher Connector

These results are in line with the Spanish clinical guidelines for RA which recommend the use of tumor necrosis factor inhibitors as first-line treatment after failure with disease-modifying antirheumatic drugs.

PMS69

BUDGET IMPACT ANALYSIS OF APREMILAST IN PATIENTS WITH PSORIATIC ARTHRITIS IN SPAIN

Almodóvar R[1], Gonzalez CM[2], Caloto T[3], Elías I[4], Oyagüez I[4], Tencer T[5]
[1]Department of Rheumatology, Fundación de Alcorcón University Hospital, Madrid, Spain, [2]Department of Rheumatology, Gregorio Marañón University Hospital, Madrid, Spain, [3]Department of Health Economics, Celgene Corporation, Madrid, Spain, [4]Pharmacoeconomics & Outcomes Research Iberia, Madrid, Spain, [5]Celgene Corporation, Warren, NJ, USA

OBJECTIVES: This analysis was designed to estimate the budget impact following the introduction of apremilast in the treatment of active psoriatic arthritis (PsA) for adult patients who have failed to respond to or are intolerant of disease-modifying antirheumatic drugs (DMARDs) in Spain. **METHODS:** A budget impact model was developed to estimate healthcare costs for adults with PsA during a 3-year period from the NHS perspective. Target population was defined based on epidemiological criteria; PsA prevalence (0.2%) and proportion of patients on biologic treatment (13.5%) were applied to national adult population statistics. Addition of apremilast to the therapeutic arsenal (adalimumab, etanercept, golimumab, infliximab, ustekinumab) was explored. From the annual eligible population of PsA patients (N=8,122), 5% (n=406), 11% (n=893), and 18% (n=1,462) were assumed to be treated with apremilast for the first, second, and third year, respectively. A local expert panel provided detailed resource consumption information. Total cost included drug acquisition based on drug doses from the summaries of product characteristics (ex-factory price with mandatory deduction), administration (parenteral drugs), and monitoring costs. Unitary costs (€, 2014) were obtained from national databases. **RESULTS:** The total budget for the scenario without apremilast was €101,104,837, €101,082,349, and €100,875,977 in the first, second, and third year, respectively. The pharmaceutical cost represented 95% of this total cost. Following apremilast introduction, total budgets were reduced by €1,244,342, €2,735,080, and €4,438,438 in the first, second, and third year, respectively. Incremental costs per patient comparing the scenario with apremilast vs. the scenario without apremilast were €–153.21 (–1.23%), €–336.77 (–2.71%), and €–546.50 (–4.40%) in the first, second, and third year, respectively. **CONCLUSIONS:** Apremilast treatment for PsA patients who have failed to respond to or are intolerant of DMARDs would imply a budget impact decrease on overall healthcare expenditure for the NHS.

PMS70

COST-UTILITY ANALYSIS OF APREMILAST FOR THE TREATMENT OF PSORIATIC ARTHRITIS IN THE ITALIAN SETTING

Capri S[1], Barbieri M[2], Oskar B[3]
[1]School of Economics and Management Cattaneo - LIUC University, Castellanza, Italy, [2]Centre for Health Economics, University of York, York, UK, [3]Celgene Corporation, Milan, Italy

OBJECTIVES: To determine the cost-effectiveness of apremilast for the treatment of active psoriatic arthritis for adult patients who failed to respond to or are intolerant to disease-modifying antirheumatic drugs in Italy. **METHODS:** A Markov state-transition cohort model was adapted to the Italian setting to compare costs and quality-adjusted life-years (QALYs) from 2 treatment sequences: apremilast, adalimumab, etanercept, infliximab, and best supportive care (BSC) versus adalimumab, etanercept, infliximab, and BSC. The analysis time horizon was 40 years using a 28-day cycle length. The perspective of the Italian National Health Service (NHS) was chosen. Treatment efficacy data (based on American College of Rheumatology [ACR] 20 criteria and Psoriasis Area and Severity Index [PASI] 50/75/90 response rates) were derived from a network meta-analysis including 13 clinical trials. Resource use and unit costs were derived from Italian standard sources. Frequency of screening and testing for each treatment was derived from real-world data. Utility weights associated with PASI states were derived from a published study. A 3% discount rate was applied to costs and benefits. Both deterministic and probabilistic sensitivity analyses (PSA) were performed. **RESULTS:** In the base case, the sequence including apremilast resulted in an incremental cost per QALY gained of €32,263. Specifically, there was an increase of €13,511 (€182,209 vs €168,699) with an incremental gain of QALYs of 0.42 (9.57 vs 9.15) over 40 years. Base-case results were robust regarding changes in cost and efficacy data. Results were more sensitive to changes in utility weights, discount rates, and time horizon. The PSA confirmed that the apremilast sequence was cost-effective in the majority of the simulations at a willingness to pay of €50,000 per QALY. **CONCLUSIONS:** This analysis suggests that the use of apremilast for the treatment of psoriatic arthritis may represent a cost-effective option for the Italian NHS.

PMS71

COST-EFFECTIVENESS OF ZOLEDRONIC ACID VERSUS ALENDRONIC ACID IN THE TREATMENT OF OSTEOPOROSIS IN POSTMENOPAUSAL EGYPTIAN PATIENTS: DECISION ANALYSIS

Elmansy H[1], Metry AB[2], Eldessouki R[3], Elsisi G[4]
[1]Canadian international college, Cairo, Egypt, [2]Accsight, Cairo, Egypt, [3]Elfayom university, Cairo, Egypt, [4]Central administration for pharmaceutical affairs, Cairo, Egypt

OBJECTIVES: To evaluate from the Ministry of Health perspective, over a five-year period, the cost-effectiveness of using zoledronic acid 5mg compared to that of alendronic acid in the treatment of osteoporosis in postmenopausal Egyptian patients. **METHODS:** A Markov model with five mutually exclusive health states (Well, hip fracture, spine (vertebral) fracture, wrist (non-vertebral) fracture, and death) was developed.The transition probabilities between the health states were derived from a previously published source. Health state utilities and major adverse events were obtained from published sources. Direct medical costs were obtained from the Ministry of health list. Costs and effects were discounted at 3.5% annually. One way sensitivity analyses were conducted. **RESULTS:** Across the overall population, the total QALYs of the Zoledronic acid group were estimated to be 194.4 compared with 194.1 for the Alendronic acid group, which resulted in a difference of 0.33 QALYs. The total costs for the Zoledronic acid group and Alendronic acid group were LE 215,232 and LE 215,087 respectively. These costs yielded an ICER of LE 435 for the Zoledronic acid group. The odds ratio of zoledronic acid on vertebral & non-vertebral fractures was found to have the greatest impact on the results. **CONCLUSIONS:** Compared with our willingness-to-pay threshold stated by world health organization for middle and lower income countries, Zoledronic acid is cost-effective; and most likely to result in an ICER lower than the threshold limit. Thus, the new treatment (Zoledronic acid) should be recommended in the Ministry of health list.

PMS72

COST-EFFECTIVENESS ANALYSIS OF CANACINUMAB IN THE TREATMENT OF PATIENTS SUFFERING FROM SYSTEMIC JUVENILE IDIOPATHIC ARTHRITIS IN RUSSIAN FEDERATION

Yagudina R, Kulikov A, Pochuprina A
I.M. Sechenov First Moscow State Medical University, Moscow, Russia

OBJECTIVES: To conduct the cost-effectiveness analysis (CEA) of canakinumab treatment group versus tocilizumab treatment group with systemic juvenile idiopathic arthritis (SJIA). **METHODS:** CEA was used to compare canakinumab treatment of patient group with previous inadequate response to tocilizumab versus tocilizumab treatment patient group which was subsequently switched to canakinumab. This analysis based on comparing treatments with usage of American College Rheumatology (ACR) criteria: ACR 30, 50, 70, 90 according to data of real clinical practice that were estimated within one year of therapy. Cost structure included following: drug treatment and administration costs, inpatient and outpatient visits, correction of adverse events and required monitoring laboratory tests. **RESULTS:** Cost-effectiveness ratios (CER) of tocilizumab and canakinumab treatment group was estimated for ACR 30 as 4,043,444 RUB/66,173 EUR and 15,813,187 RUB/258,791 EUR, respectively; for ACR 50 as 4,043,444 RUB/66,173 EUR and 17,570,208 RUB/287,546 EUR, respectively; for ACR 70 as 7,188,345 RUB/ 117,641 EUR and 19,284,375 RUB/315,599 EUR, respectively; ACR90 as 25,878,040 RUB/ 423,508 EUR and 21,962,760 RUB/359,432 EUR, respectively. **CONCLUSIONS:** According to results of CEA costs per unit of effectiveness for treatment with canakinumab were higher in most cases. However, CER for ACR 90 as more effectiveness criteria was lower for canakinumab treatment group then in tocilizumab treatment patient group who were subsequently switched on canakinumab. It was determined that treatment with canakinumab was dominant method in comparison with tocilizumab treatment for ACR 90 criteria.

PMS73

ASSESSMENT OF TOFACITINIB FOR RHEUMATOID ARTHRITIS FROM THE PERSPECTIVE OF THE BRAZILIAN HEALTHCARE SYSTEM

Ferreira CN, Rufino CS, Santana CF, Dulcine M
Pfizer, São Paulo, Brazil

OBJECTIVES: To assess the cost-effectiveness ratio of tofacitinib when compared to alternative treatment strategies currently available for moderate to severe rheumatoid arthritis (RA) from the perspective of the Brazilian healthcare system. **METHODS:** A patient-level microsimulation model with a six-month length has been developed to measure the lifetime cost and quality-adjusted life-years (QALY) associated with RA treatment and disease progression. Patients' outcome ranged based on the HAQ score. In the model, only severe adverse events were taken into consideration. The model compared treatment sequence with tofacitinibe with a comparator sequence without tofacitinibe in the patient care pathway following the 2014 Brazilian Therapeutic Guidelines for RA. The costs related to drug treatment and to patient follow-up were taken into consideration. For such, the list price published by the Brazilian agency was used. Monitoring standards were defined by specialists and funded by using the list of procedures, orthoses, and prostheses from SUS [Brazilian Unified Health System] (SIGTAP) and the website for healthcare information (TABNET) from the Ministry of Health. The probability sensitivity analysis was calculated having 50 first-order iterations and 500 second-order iterations, thus yielding a total of 25,000 iterations. An amount of BRL 81,667 was adopted as a limit of willingness to pay – equivalent to three times the national GDP per capita (2014). **RESULTS:** In all scenarios, the treatment arm including tofacitinibe was shown to be dominant with lower costs and greater effectiveness – saving up to BRL 77,271.97. The probability sensitivity analysis (PSA) was also completed showing that tofacitinibe likely to be 52% more effective, 92% more economical and 87% more cost-effective for one of the scenarios. **CONCLUSIONS:** The inclusion of tofacitinibe into the treatment strategy for moderate to severe RA is a dominant strategy for Brazilian healthcare system. These results were shown to be robust after completing PSA.

PMS74

COST-UTILITY ANALYSIS OF CERTOLIZUMAB PEGOL FOR THE TREATMENT OF ACTIVE PSORIATIC ARTHRITIS IN GREECE

Tzanetakos C[1], Vassilopoulos D[2], Kourlaba G[3], Christou P[4], Maniadakis N[1]
[1]National School of Public Health, Athens, Greece, [2]University of Athens Medical School, Hippokration General Hospital, Athens, Greece, [3]Collaborative Center for Clinical Epidemiology and Outcomes Research (CLEO), Athens, Greece, [4]UCB Pharma, Athens, Greece

OBJECTIVES: To evaluate certolizumab pegol (CZP) relative to the other anti-TNFs, etanercept, infliximab, adalimumab and golimumab, and standard of care (SoC), among patients with active psoriatic arthritis (PsA), previously unresponsive to conventional disease-modifying antirheumatic drugs (cDMARD). **METHODS:** A Markov model was used to simulate the lifetime progression of active PsA patients from treatment onset onwards. The model assumed that non-responders stop treatment and move to SoC. At treatment initiation, a 12- or 24-week treatment response assessment period was assumed. Long-term treatment withdrawal and patient mortality rates were obtained from the literature. SoC was defined as a mix of cDMARDs based on expert advice. Clinical efficacy was modeled in terms

of the Psoriatic Arthritis Response Criteria, Health Assessment Questionnaire and Psoriasis Area and Severity Index data, synthesized from published clinical trials via a Bayesian network meta-analysis. Following a payer perspective, direct costs relating to drug acquisition, administration, monitoring and overall patient management were considered (2015). **RESULTS:** All anti-TNF therapies yielded greater improvements in the aforementioned efficacy outcomes and in terms of quality-adjusted life years (QALYs) compared to SoC. The incremental cost per QALY gained of CZP relative to SoC was €16,539 and €20,714 at 12- and 24-week response assessment period respectively, which is below the established willingness-to-pay threshold of €34,000. Between the anti-TNFs, efficacy differences did not reach statistical significance. In terms of the mean lifetime patient cost, it ranged from €61,469 for CZP to €86,632 for infliximab, assuming a 12-week response assessment period. Similarly, at the alternative assessment period scenario, it ranged from €66,401 and €67,499 for golimumab and CZP respectively, to €83,483 for infliximab. **CONCLUSIONS:** CZP was found to be cost-effective relative to SoC and as effective in terms of efficacy and less costly, i.e. dominant, compared to most other licensed anti-TNF agents in Greece.

PMS75

TELEREHABILITATION AFTER TOTAL KNEE REPLACEMENT: PRELIMINARY COST-EFFECTIVENESS ANALYSIS OF AN INNOVATIVE DEVICE

Fusco F[1], Turchetti G[2]

[1]*Scuola Superiore Sant'Anna, Pisa, Italy,* [2]*Scuola Superiore Sant'Anna, Pisa, Italy*

OBJECTIVES: A Telerehabilitation service following Total Knee Replacement (TKR) has been shown to be not inferior to standard rehabilitation (SR) in recovering the active knee flexion range of motion (ROM) in patients who had not complication related to TKR surgery. However, little is known about its cost-effectiveness. The objective of this economic evaluation was to assess cost-effectiveness of telerehabilitation versus SR. **METHODS:** A Markov model was employed to simulate the natural progression of TKR, assuming telerehabilitation does not influence this. The revision risk was calculated from patient-level data (multicentre KAT trial) employing a parametric model including established prognostic factors. The others state-transition probabilities and treatments effects were obtained from published literature. Rehabilitation and transportation costs were assessed adopting Ita-NHS perspective employing Italian tariffs. The patients without complications followed the TR-SR programme receiving half of the sessions in SR and half in telerehabilitation regime. Patients with any complication followed the SR receiving face-to-face sessions. Results were adjusted applying an annual discount rate of 3% and half-cycle correction. Probabilistic sensitivity analysis (PSA) described the parameters uncertainty. **RESULTS:** A cohort of 1000 patients with the features of KAT trial population (70 years old, 44% male and 19% had any complication related to the surgery) were first assigned to SR then to TR -SR. The mean (SE) lifetime healthcare cost in SR arm were €1,033.81 (€21.97) and €818.44 (€13.82) for telerehabilitation (mean±95%CI difference -215.33±€10.64). Mean (SE) ROM was 16.68 (0.04) in SR programme and 18.84 (0.04) in telerehabilitation programme (mean±95%CI difference 2.16±0.09). The probability that telerehabilitation is cost-saving (WTP:€0) is 92%. **CONCLUSIONS:** Adopting the healthcare provider perspective, TR-SR seems cost-effective when compared to a SR programme. Further sensitivity analyses are required to relax the model assumptions and to assess the robustness of the model.

PMS76

ECONOMIC EVALUATION OF TOCILIZUMAB COMBINATION IN THE TREATMENT OF THE PATIENTS WITH DMARD-IR RHEUMATOID ARTHRITIS IN CHINA

Chen W[1], Xu X[2]

[1]*Fudan University, Shanghai, China,* [2]*Shanghai Roche Pharmaceuticals Ltd., Shanghai, China*

OBJECTIVES: This study aims to evaluate the cost-effectiveness of Tocilizumab-based-regimen and other four biologic-based-regimens for the treatments of DMARD-IR rheumatoid arthritis patients in China. **METHODS:** A network meta-analysis (NMA) was performed to combine and compare ACR response rates across all relevant RCT evidences. The real-world treatment fees, including drugs, monitoring and administration fees, were collected through expert interviews in Beijing, Shanghai, Guangzhou and Chengdu city. All Patient-Assistant-Programs were considered in drug-cost calculation. The cost-effectiveness analysis was conducted to evaluate average costs per ACR20/50/70 response among five regimens. **RESULTS:** The NMA analysis included 28 eligible RCTs. The results indicated that ACR20/50/70 response rates of Tocilizumab-based-regimen were 74%, 56% and 28% respectively. While the ACR20/50/70 response rates of other four regimens (Adalimumab, Infliximab, Etanercept and Etanercept-NCB (Non-Comparable-Biologics)) were 77%, 55% and 19% respectively. The total treatment fees of these five regimens within 48-weeks were calculated to be RMB 87,384, RMB 113,162, RMB 82,386, RMB 154,894 and RMB 93,582. The cost-effectiveness results demonstrated that, compared with other four regimens, Tocilizumab-regimen cost the average of RMB 312,087 (USD50,336) to achieve an ACR70 response. It cost RMB 118,087 (USD19,046) per ACR20 response and RMB 156,044 (USD25,168) per ACR50 response, which were comparable with Infliximab-regimen, but less than others. Tocilizumab could save costs ranged from RMB 3,449 (USD556) to RMB 503,147 (USD81,152) in order to fully achieve ACR20/50/70 response rates compared with other regimens. **CONCLUSIONS:** The study demonstrated that, compared with other available biologicals in China, Tocilizumab-regimen was the most cost-effective to achieve ultimate ACR70 response for DMARD-IR rheumatoid arthritis patients. It also suggested that it had similar cost-effectiveness results to Infliximab to achieve ACR20/50 responses.

PMS77

THE EFFECTIVENESS AND COST-EFFECTIVENESS OF HYLAN G-F 20 IN OSTEOARTHRITIS OF THE KNEE

Kostyuk A[1], Almadiyeva A[2], Akanov A[2]

[1]*Kazakh Medical University for Continuing Education, Astana, Kazakhstan,* [2]*Astana Medical University, Astana, Kazakhstan*

OBJECTIVES: Osteoarthritis (OA) is the most common and costly bone and joint disease in the elderly. Recently, viscosupplementation, an intra-articular injection of artificial joint fluid in order to restore rheological properties affecting lubrication and shock absorption, has introduced as an alternative conservative treatment. To assess the effectiveness and cost-effectiveness of Hylan G-F 20 (Hylan) as a substitute for existing treatments for pain due to OA of the knee, other viscosupplementation devices, and/or as an adjunct to conventional therapy. **METHODS:** A Markov microsimulation model was developed to define a treatment pathway for OA of the knee, illustrate the current costs of treating patients with the condition, and demonstrate the potential savings associated with introduction of Hylan. A hypothetical cohort of patients categorized as having 2-3 or 4 degree of OA of the knee was followed over a 30-month time period. **RESULTS:** When comparing intra-articular administration of Hylan, the use of NSAIDs and intra-articular administration of corticosteroids (GCS), rirost costs compared with the strategy of NSAIDs amounted to $192 rate per 1 patient. This increase in efficiency of 20% in favor of Hylan. Accordingly, the ratio ICER was $979 per patient, which is much below the threshold of "society's willingness to pay." Markov cycle for patients with OA of the knee of 4 degrees showed that use of Hylan is more effective in the end point of modeling the effectiveness of this strategy was 12% (compared to 0% in the policies of NSAIDs and corticosteroids). We calculated the total cost of the budget in the application of NSAIDs, GCS, and Hylan, after calculations found that the use of Gilan can save significant budget funds - up to $954582 (for 1,000 patients). **CONCLUSIONS:** Hylan may delay the need for joint replacement in patients with OA of 4 degrees, suggest its use is justified from a clinical and economic standpoint as compared to the consideration of other treatment strategies.

PMS78

RELATIONSHIP BETWEEN PAIN, FUNCTIONAL DISABILITY AND HEALTH-RELATED QUALITY OF LIFE IN PATIENT WITH FAILED BACK SURGERY SYNDROME UNDERGOING SPINAL CORD STIMULATION: RESULTS FROM THE PRECISE STUDY

Scalone L[1], Zucco F[2], Ciampichini R[1], Lavano A[3], Costantini A[4], De Rose M[3], Poli P[5], Fortini G[6], Demartini L[7], De Simone E[8], Menardo V[9], Cisotto P[10], Meglio M[11], Mantovani LG[1]

[1]*University of Milano - Bicocca, Monza, Italy,* [2]*Azienda Ospedaliera Salvini, Garbagnate Milanese, Milano, Italy,* [3]*Università degli Studi Magna Grecia, Germaneto, Italy,* [4]*Ospedale Clinicizzato Ss.Annunziata, Chieti, Italy,* [5]*Azienda Ospedaliera Universitaria Pisana, Pisa, Italy,* [6]*AO Ospedale di Circolo e Fondazione Macchi di Varese, Varese, Italy,* [7]*Istituto Scientifico di Pavia, Pavia, Italy,* [8]*A.O.R.N. "S.G. Moscati, Avellino, Italy,* [9]*AZIENDA OSPEDALIERA S. CROCE E CARLE, Cuneo, Italy,* [10]*Ospedale S. Maria di Cà Foncello, Treviso, Italy,* [11]*Policlinico Universitario, Roma, Italy*

OBJECTIVES: Failed back surgery syndrome (FBSS) represents one main cause of chronic neuropathic or mixed pain and functional disability. Results from previous clinical trials and from the PRECISE naturalistic study [Zucco et al, Neuromodulation, 2015] show that Spinal Cord Stimulation (SCS) provides pain relief and improves patients' health. Our current aim is to understand the relationship between pain intensity, functional disability, and overall Health-Related Quality-of-life (HRQoL). **METHODS:** At recruitment (before SCS) and every 6 months for 2 years after SCS a battery of questionnaires/tests were completed: EQ-5D-3L and SF-36 for HRQoL, the Numerical Rating Scale (NRS) to measure pain intensity, and the Oswestry Disability Index (ODI) to measure disability/functional capability. Statistical tests were conducted to compare the HRQoL levels (using the EQ-5D utility index, the EQ-VAS, the SF-36 Physical Component Summary (PCS) and Mental Component Summary (MCS) index), NRS and ODI at baseline with those measured during the observational period. Multilevel regression analyses were conducted to investigate the association between the HRQOL indexes and the NRS and ODI indexes, on adjusting for: age, gender, previous surgery, education, baseline level of the dependent variable, and time of assessment. **RESULTS:** Eighty patients (40% male, mean age=58 years) participated. Significant improvements ($p<0.001$) in pain intensity, functional capability and HRQoL were reached after 6 months from SCS and maintained or further improved until the end of the observational period. According to the regression models, every HRQoL index was significantly associated ($p<0.001$) with both the NRS and the ODI indexes at any time of assessment. **CONCLUSIONS:** Our results suggest that in a 2-year observational period, SCS+CMM treatment reduces significantly pain intensity and functional disability in patients with FBSS, with significant repercussions on their general HRQOL. Furthermore, our results suggest the HRQoL instruments used in this study are valid to assess overall patients' health and treatment outcomes.

PMS79

CONTROLLING THE COST SPENT ON EXPENSIVE BIOLOGIC AGENTS: AN EXAMPLE OF NET MONETARY SAVINGS BY DOSE OPTIMISATION OF TUMOR NECROSIS FACTOR INHIBITORS IN RHEUMATOID ARTHRITIS PATIENTS

Kievit W[1], van Herwaarden N[2], van den Hoogen F[2], van Vollenhoven R[3], Bijlsma H[4], van den Bemt B[2], van der Maas A[2], den Broeder A[2]

[1]*Radboudumc, Nijmegen, The Netherlands,* [2]*Sint Maartenskliniek, Nijmegen, The Netherlands,* [3]*Karolinska University Hospital, Stockholm, Sweden,* [4]*Utrecht Univeristy Medical Centre, Utrecht, The Netherlands*

OBJECTIVES: Effective but expensive (approximately €14,000 per year) tumor necrosis factor inhibiting drugs (TNFi) are used for the treatment of several chronic inflammatory diseases including rheumatoid arthritis (RA). A proven dose reduction strategy in RA patients could result in substantial cost savings. It may however also lead to a loss of quality of life as a result of flares induced by dose reduction attempts. If this loss is compensated with large cost saving, we might still consider the intervention cost-effective. **METHODS:** a pre-planned cost-effectiveness analysis of the DRESS study, a randomised controlled, non-inferiority trial comparing a disease activity guided dose optimisation strategy with usual care in patients with RA and low disease activity using TNFi. Total health care costs were measured and quality adjusted life years (QALY) were based on EQ5d utilities. Decremental cost-effectiveness ratio and incremental net monetary benefit (iNMB) were determined.